FIGURE 1

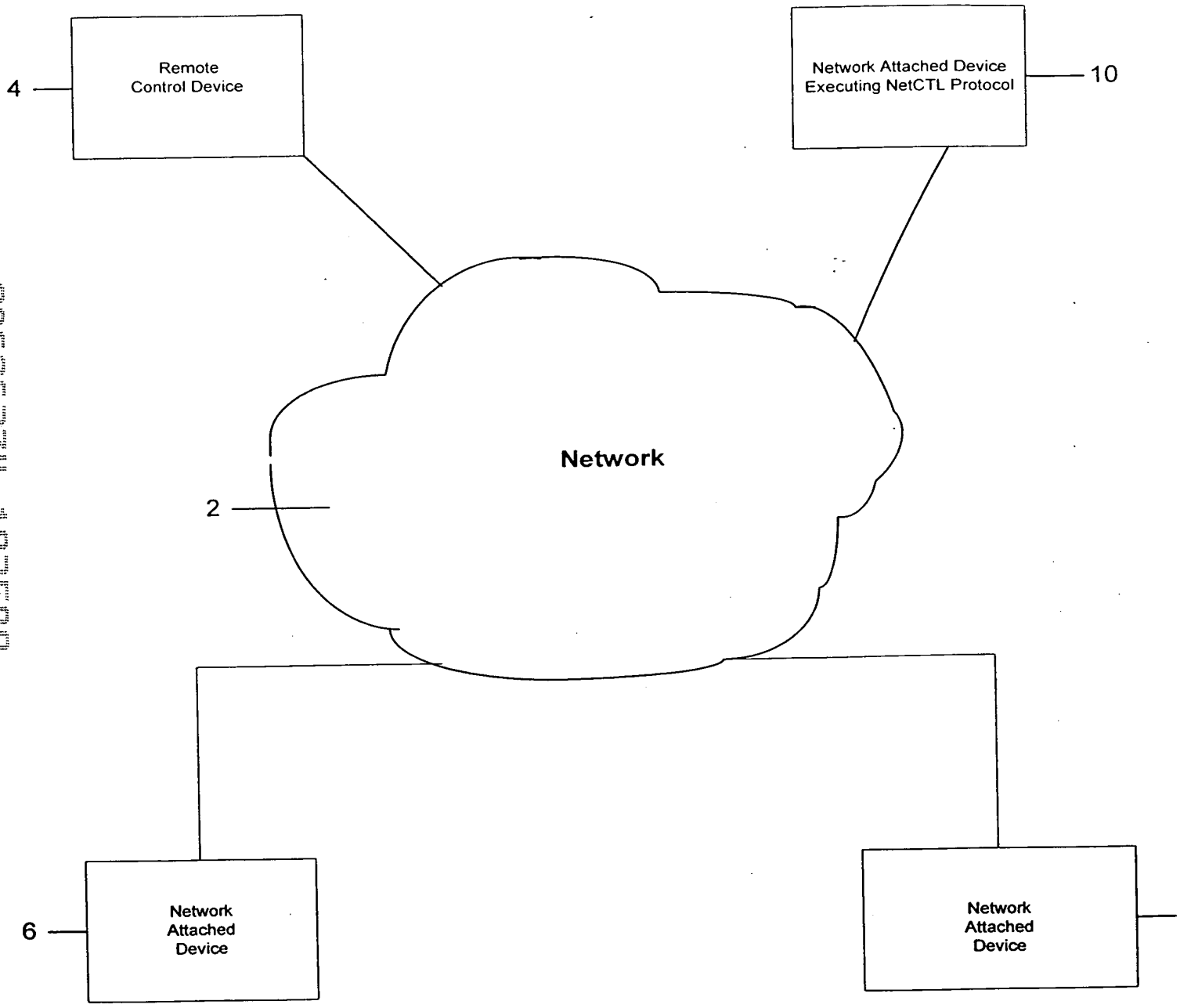

Remote
Control Device
4
Network Attached Device
Executing NetCTL Protocol
10
Network
2
Network
Attached
Device
6
Network
Attached
Device

FIGURE 2

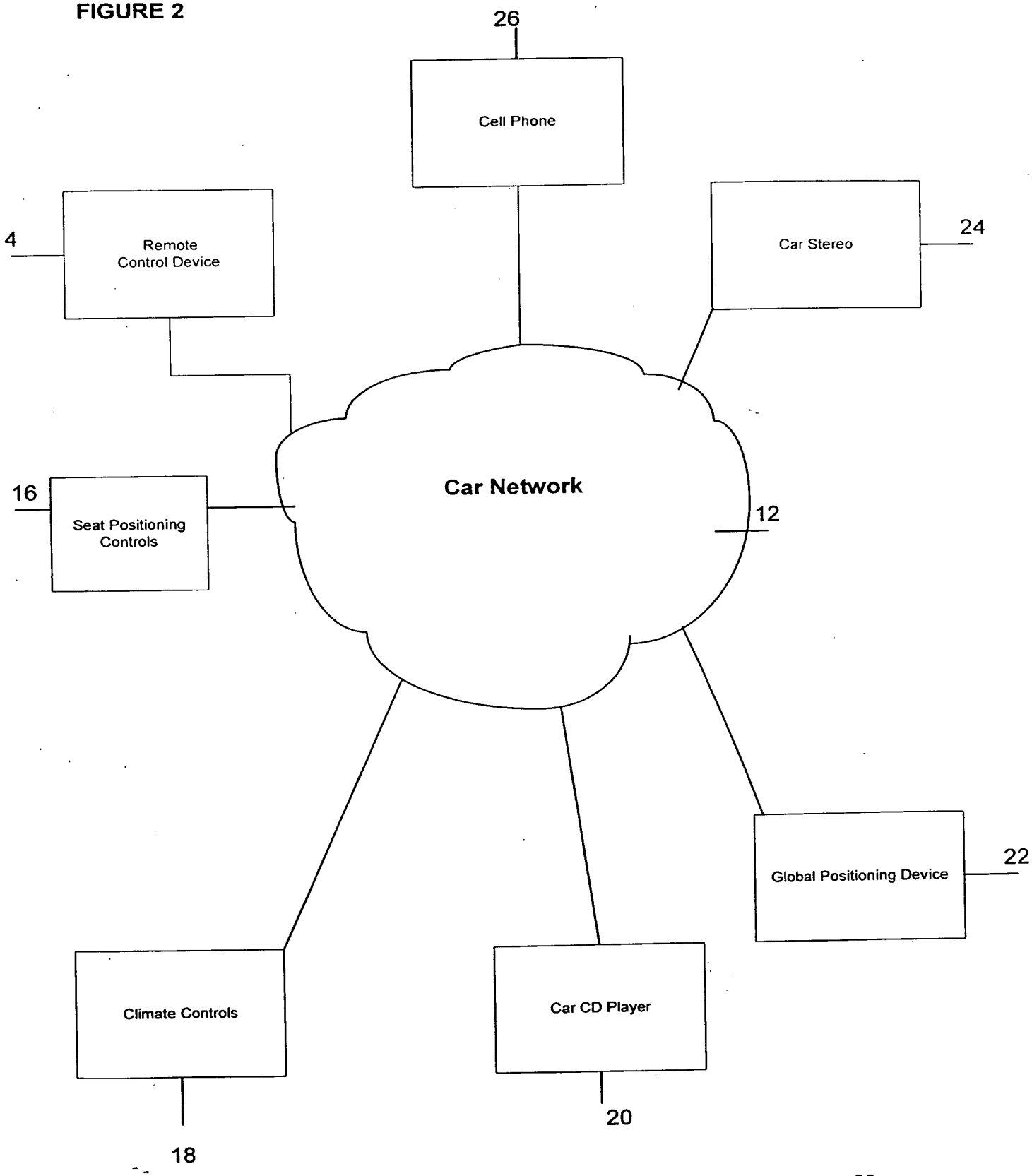

26
Cell Phone
4
Remote
Control Device
Car Stereo
24
Car Network
12
16
Seat Positioning
Controls
Global Positioning Device
22
Climate Controls
Car CD Player
20
18

Figure 3

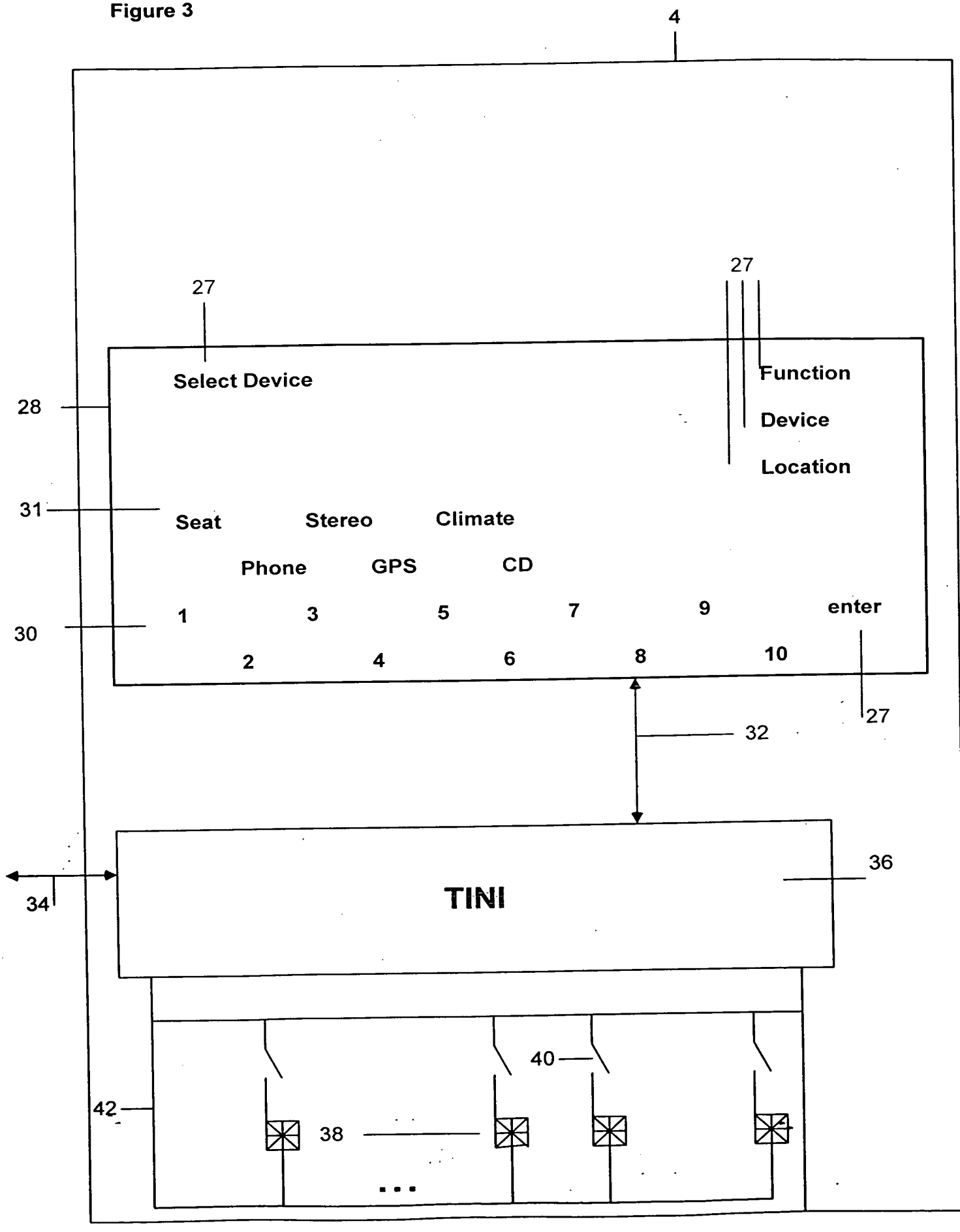

4
27
27
Select Device
Function
Device
Location
28
31
Seat
Stereo
Climate
Phone
GPS
CD
30
1
3
5
7
9
enter
2
4
6
8
10
27
32
TINI
36
34
40
42
38
...

Figure 4A

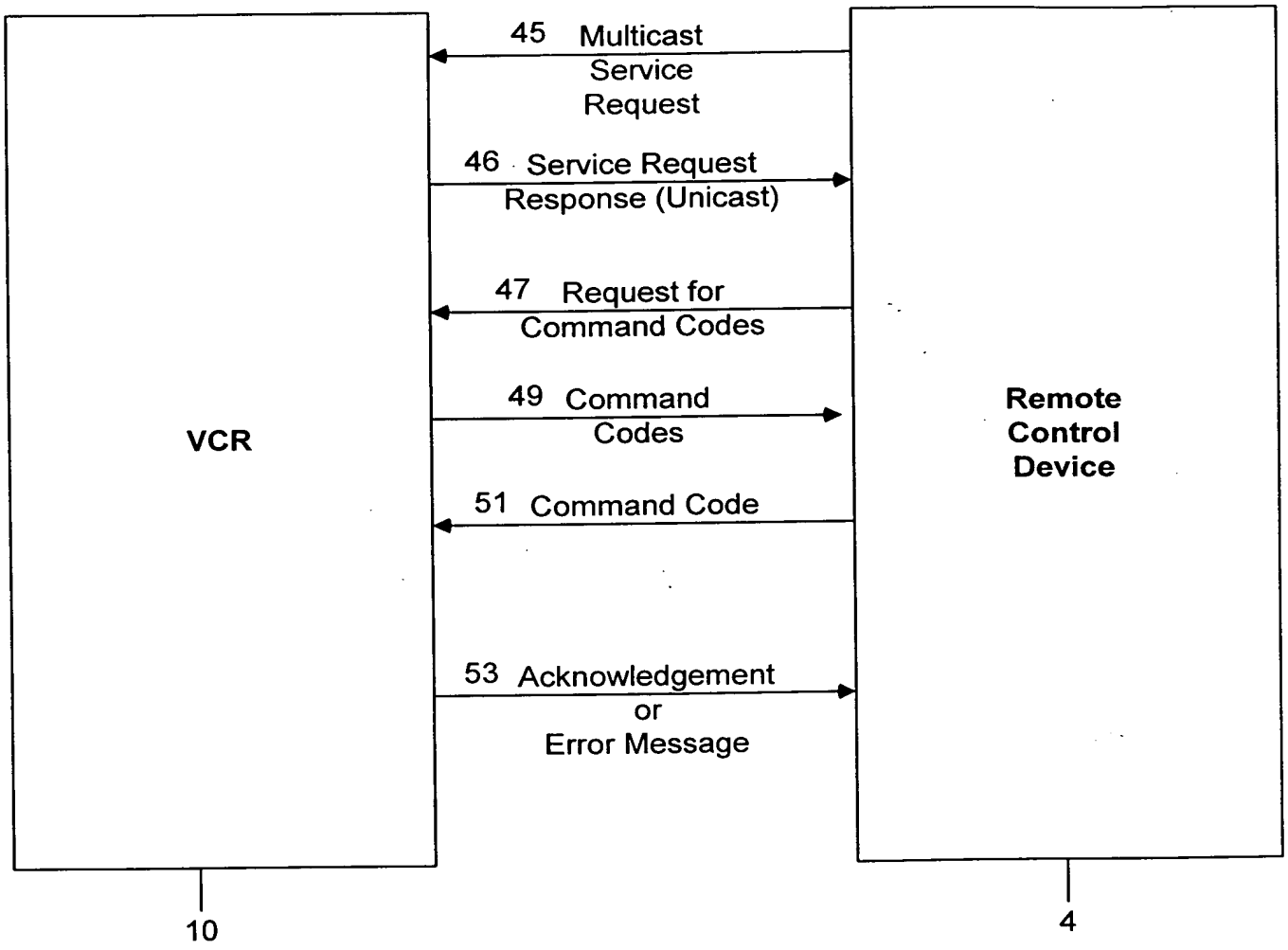

45 Multicast Service Request
46 Service Request Response (Unicast)
47 Request for Command Codes
49 Command Codes
51 Command Code
53 Acknowledgement or Error Message
VCR
Remote Control Device
10
4

Figure 4B

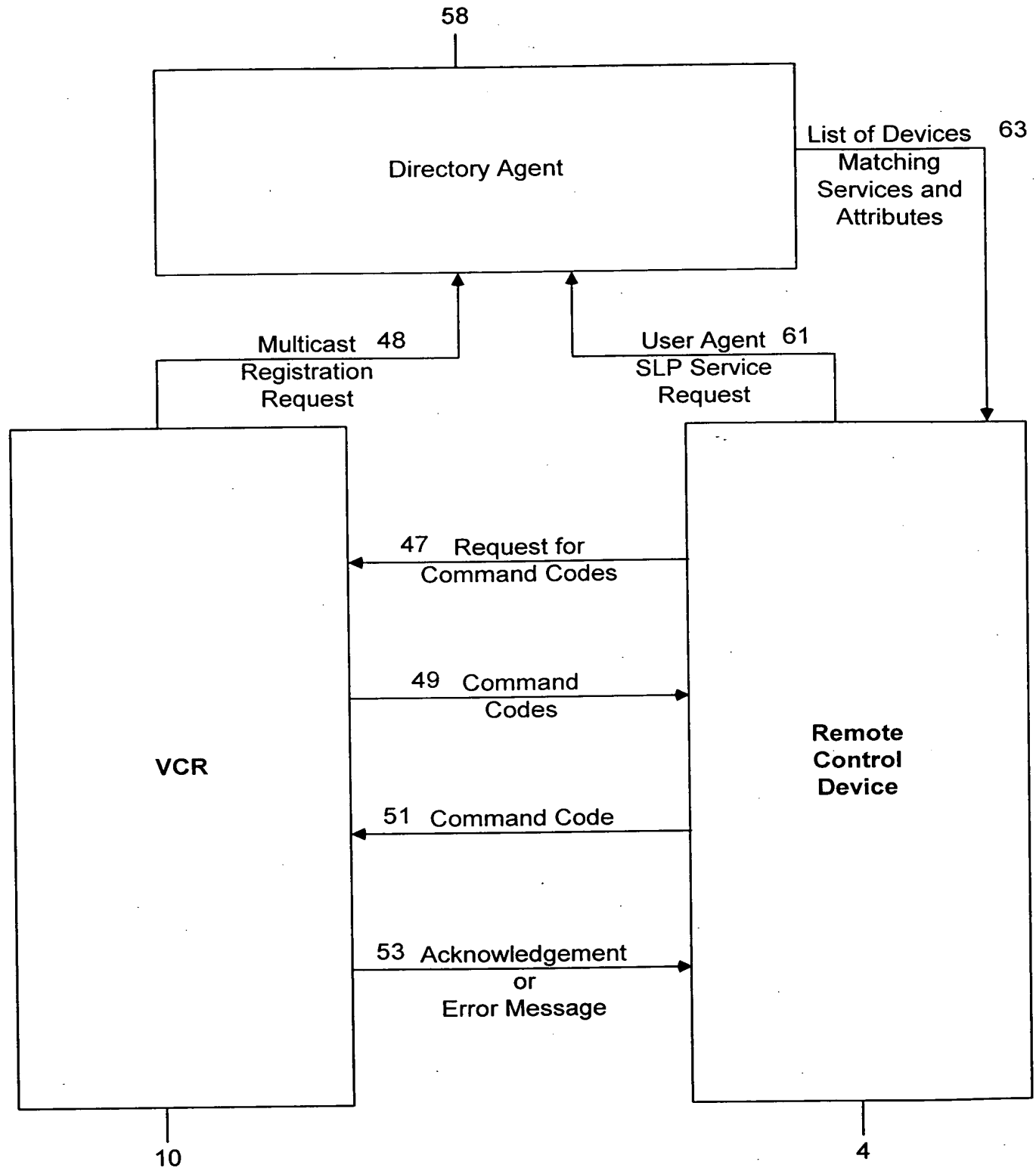

58
Directory Agent
List of Devices Matching Services and Attributes
63
Multicast Registration Request
48
User Agent SLP Service Request
61
47 Request for Command Codes
49 Command Codes
51 Command Code
53 Acknowledgement or Error Message
VCR
Remote Control Device
10
4

FIGURE 5

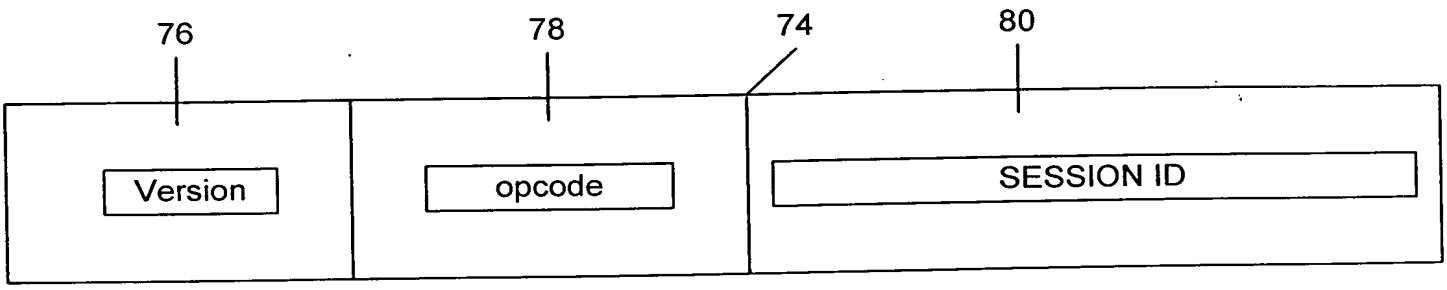


Figure 6A

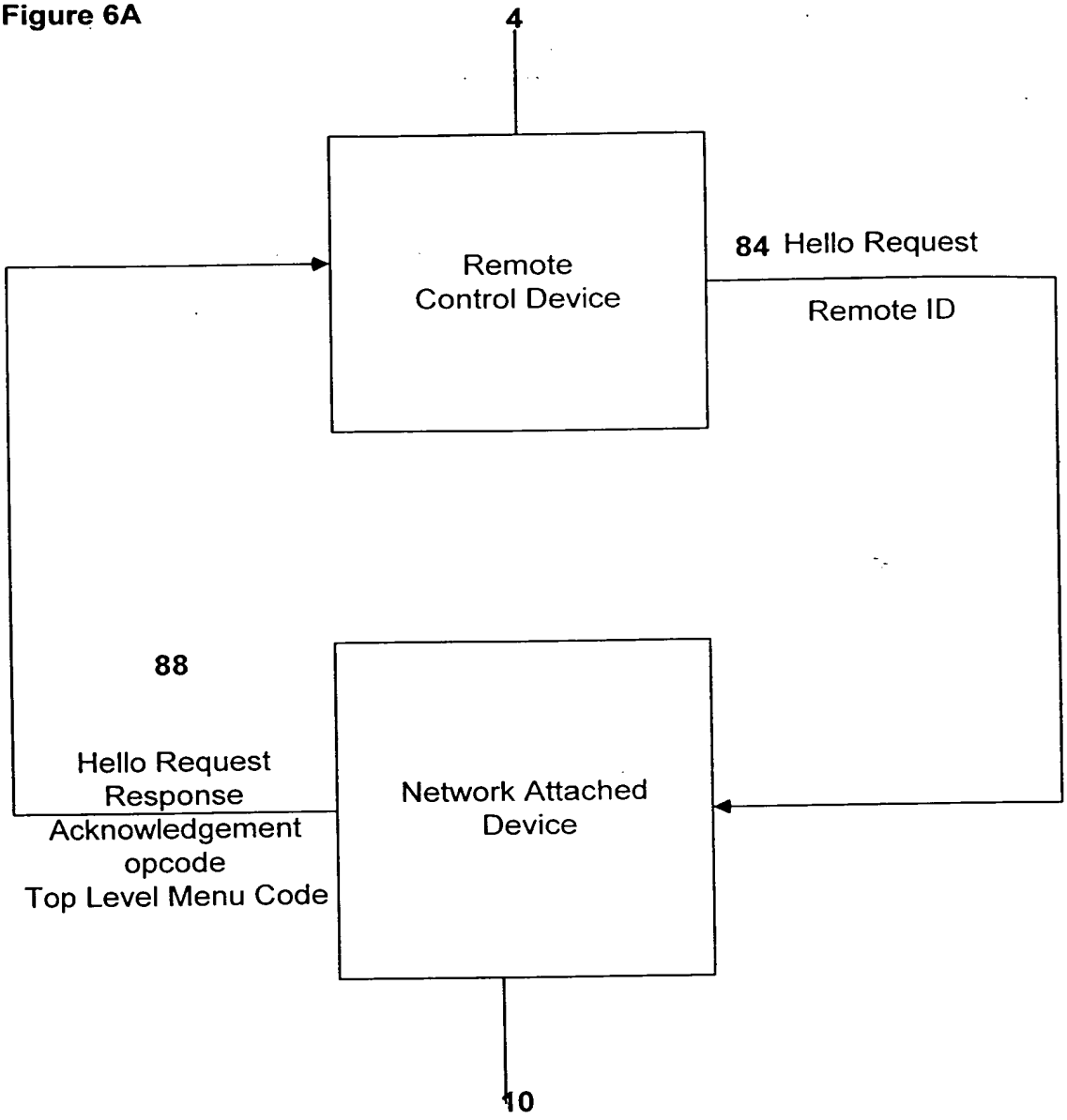

4
Remote
Control Device
84 Hello Request
Remote ID
88
Hello Request
Response
Acknowledgement
opcode
Top Level Menu Code
Network Attached
Device
10

FIGURE 6B

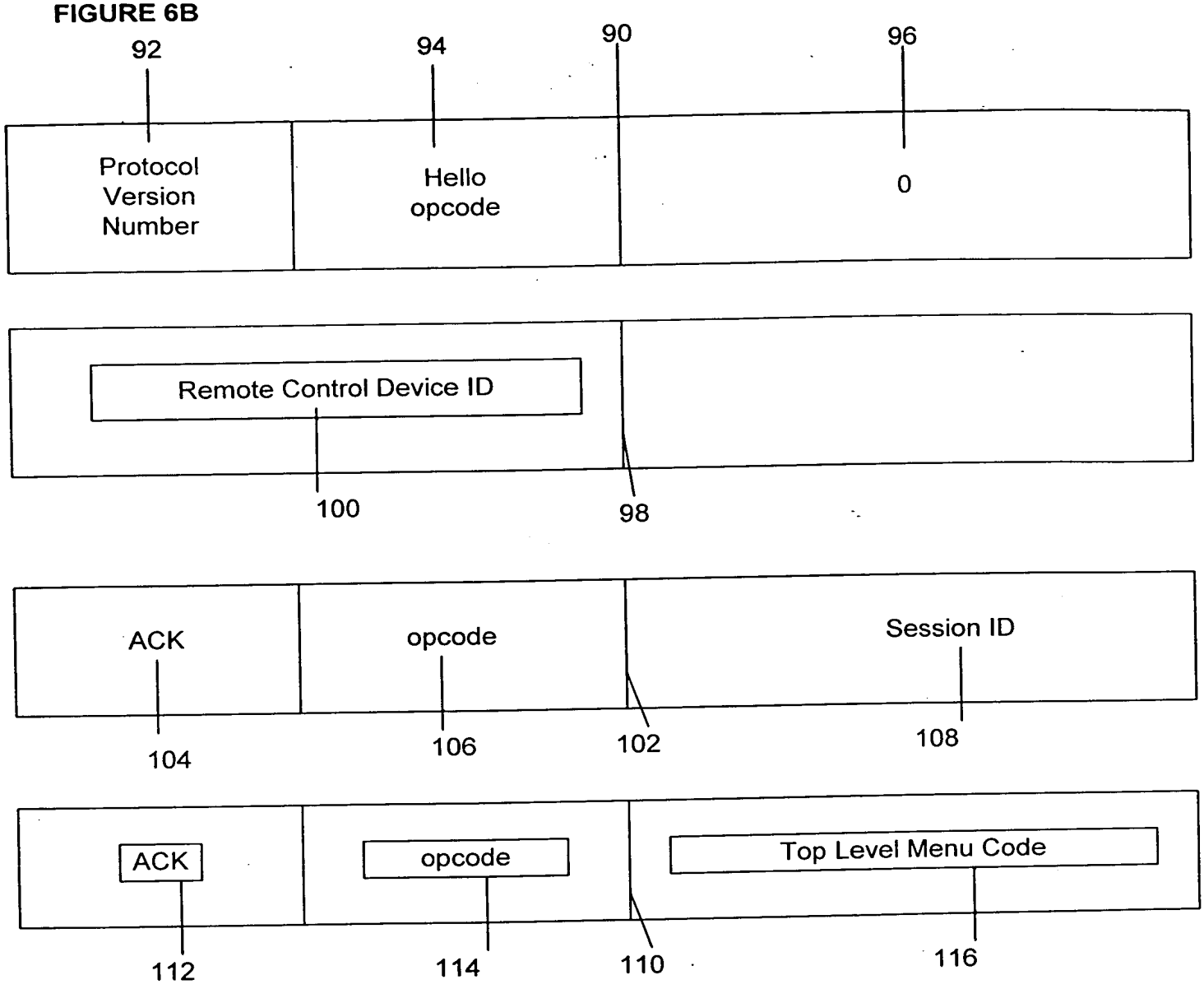

92
94
90
96
Protocol Version Number
Hello opcode
0
Remote Control Device ID
100
98
ACK
opcode
Session ID
104
106
102
108
ACK
opcode
Top Level Menu Code
112
114
110
116

Figure 7A

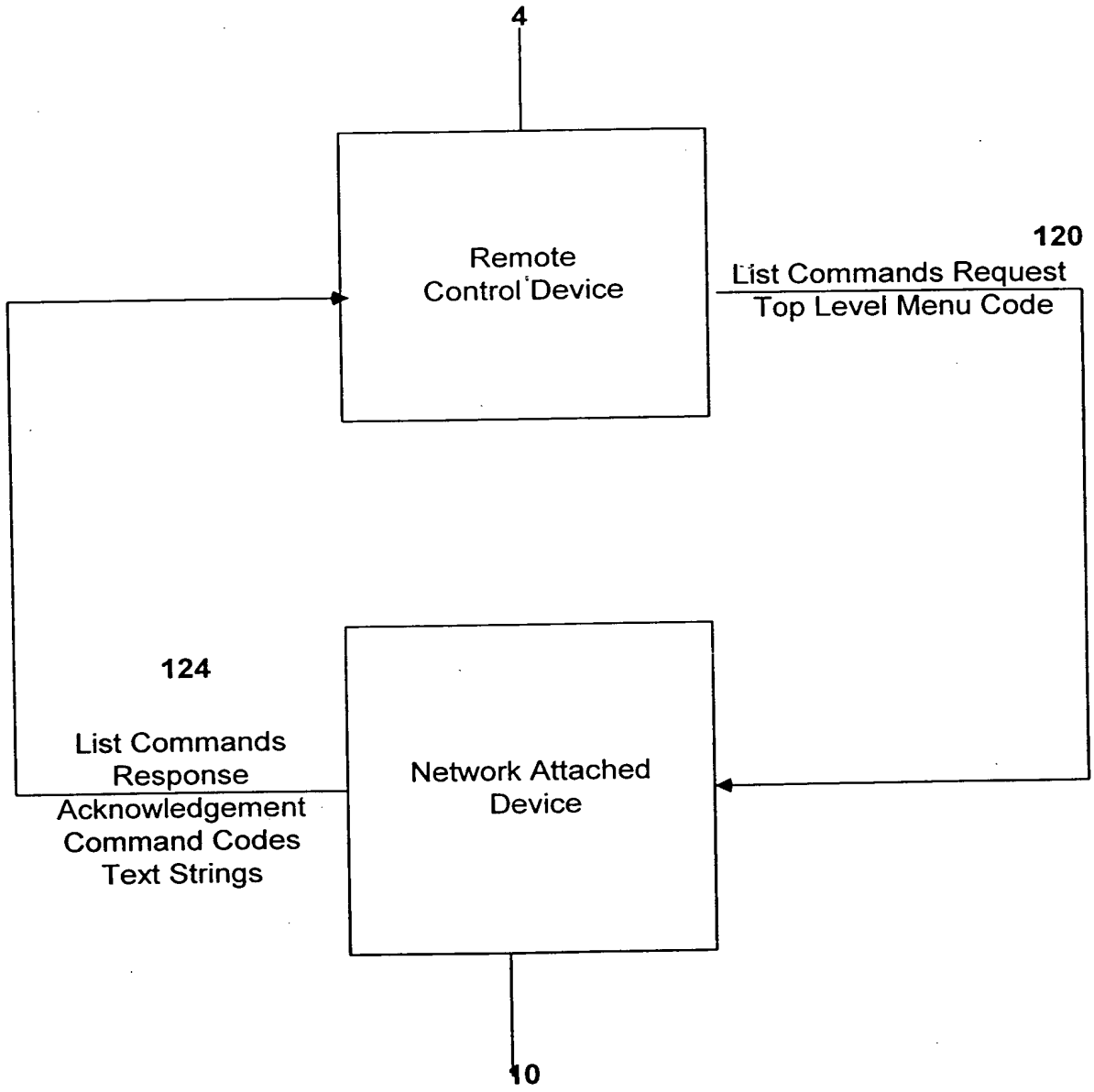

4
Remote
Control Device
120
List Commands Request
Top Level Menu Code
124
List Commands
Response
Acknowledgement
Command Codes
Text Strings
Network Attached
Device
10

Figure 7B

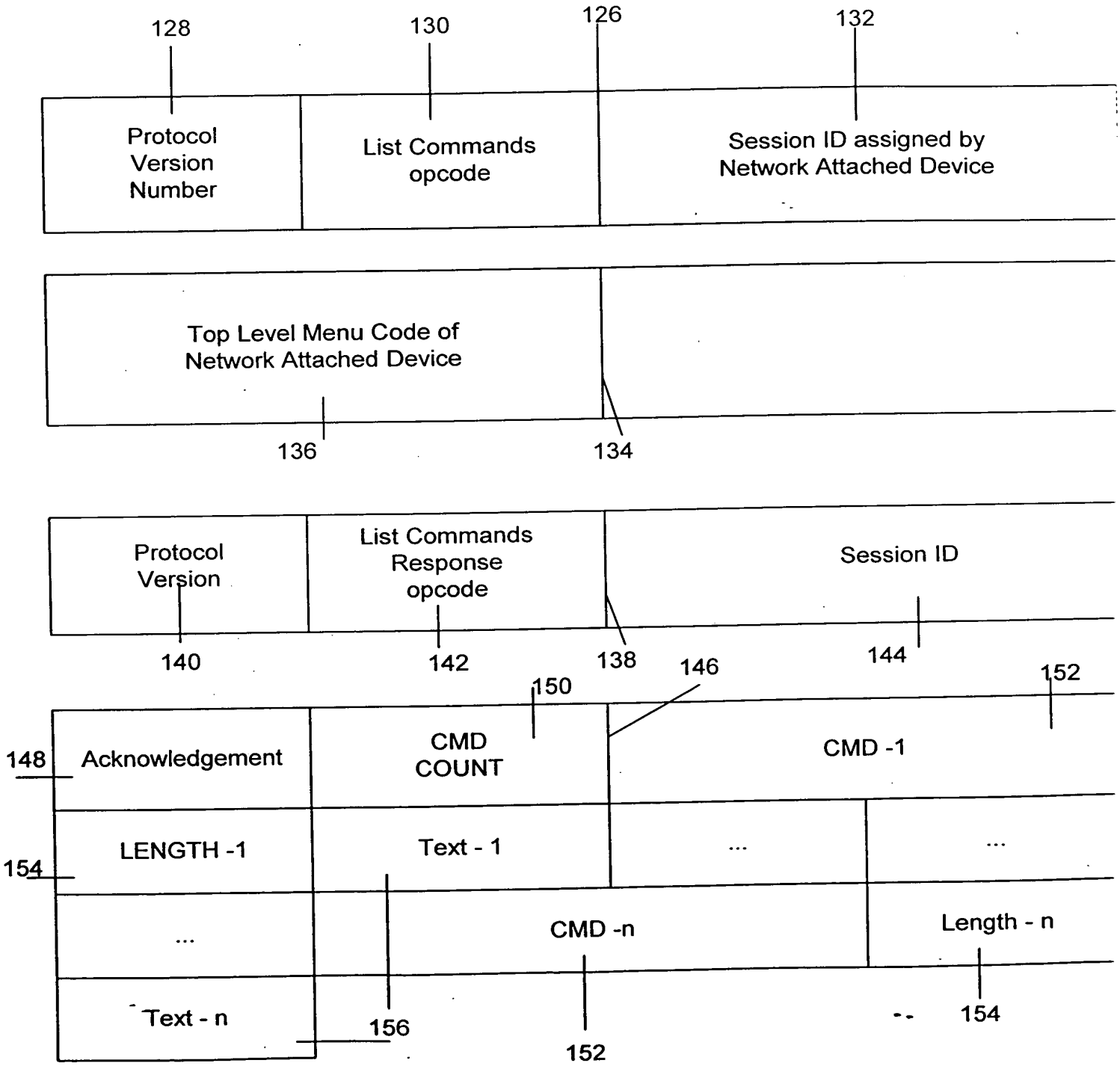

128
130
126
132
Protocol Version Number
List Commands opcode
Session ID assigned by Network Attached Device
Top Level Menu Code of Network Attached Device
136
134
Protocol Version
List Commands Response opcode
Session ID
140
142
138
144
146
150
152
148
Acknowledgement
CMD COUNT
CMD -1
154
LENGTH -1
Text - 1
...
...
...
CMD -n
Length - n
Text - n
156
152
154

Figure 8A

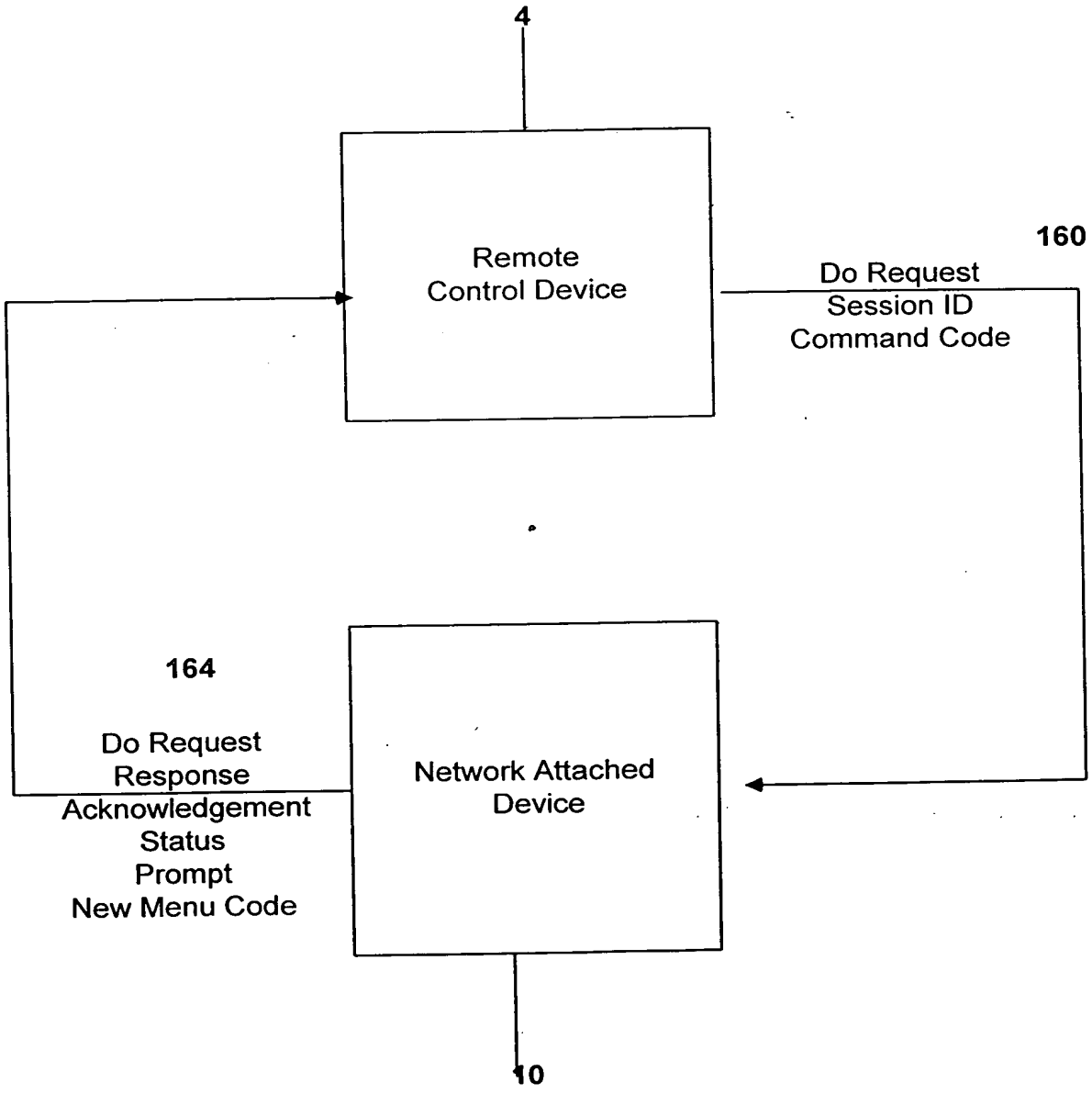

4
Remote
Control Device
160
Do Request
Session ID
Command Code
164
Do Request
Response
Acknowledgement
Status
Prompt
New Menu Code
Network Attached
Device
10

Figure 8B

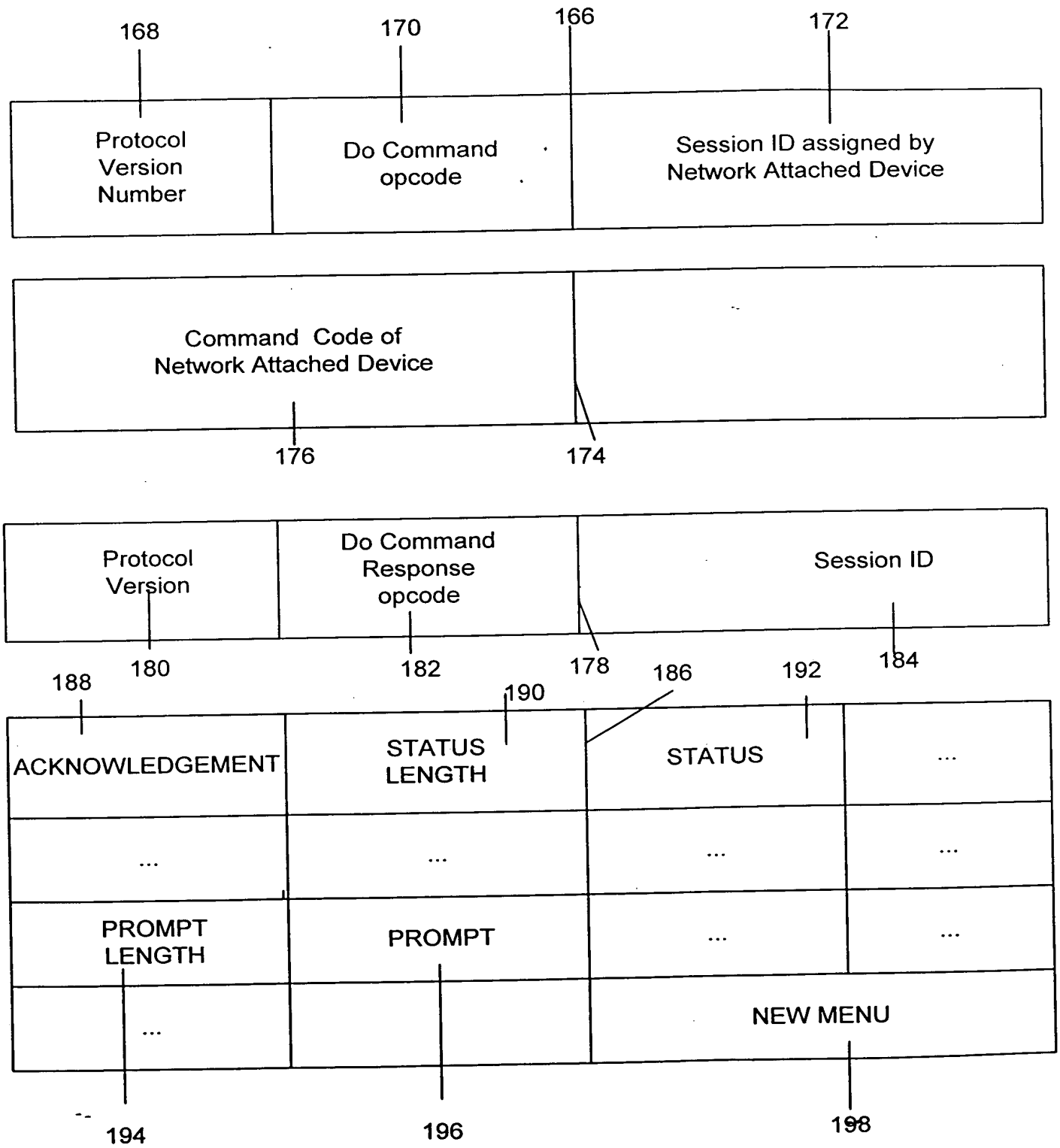

168
170
166
172
Protocol Version Number
Do Command opcode
Session ID assigned by Network Attached Device
Command Code of Network Attached Device
176
174
Protocol Version
Do Command Response opcode
Session ID
180
182
178
184
188
190
186
192
ACKNOWLEDGEMENT
STATUS LENGTH
STATUS
...
PROMPT LENGTH
PROMPT
NEW MENU
194
196
198

Figure 9A

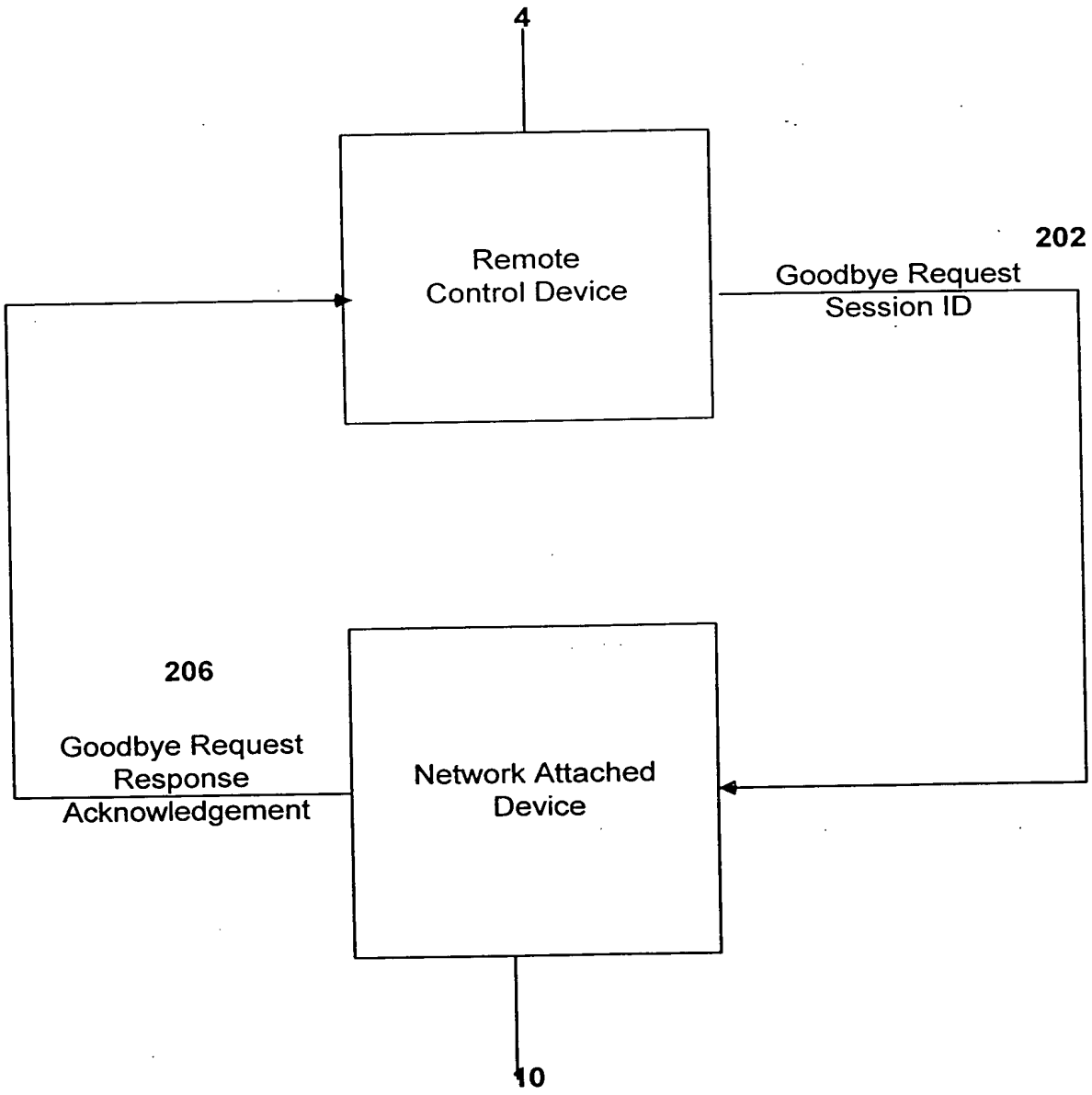

4
Remote
Control Device
202
Goodbye Request
Session ID
206
Goodbye Request
Response
Acknowledgement
Network Attached
Device
10

Figure 9B

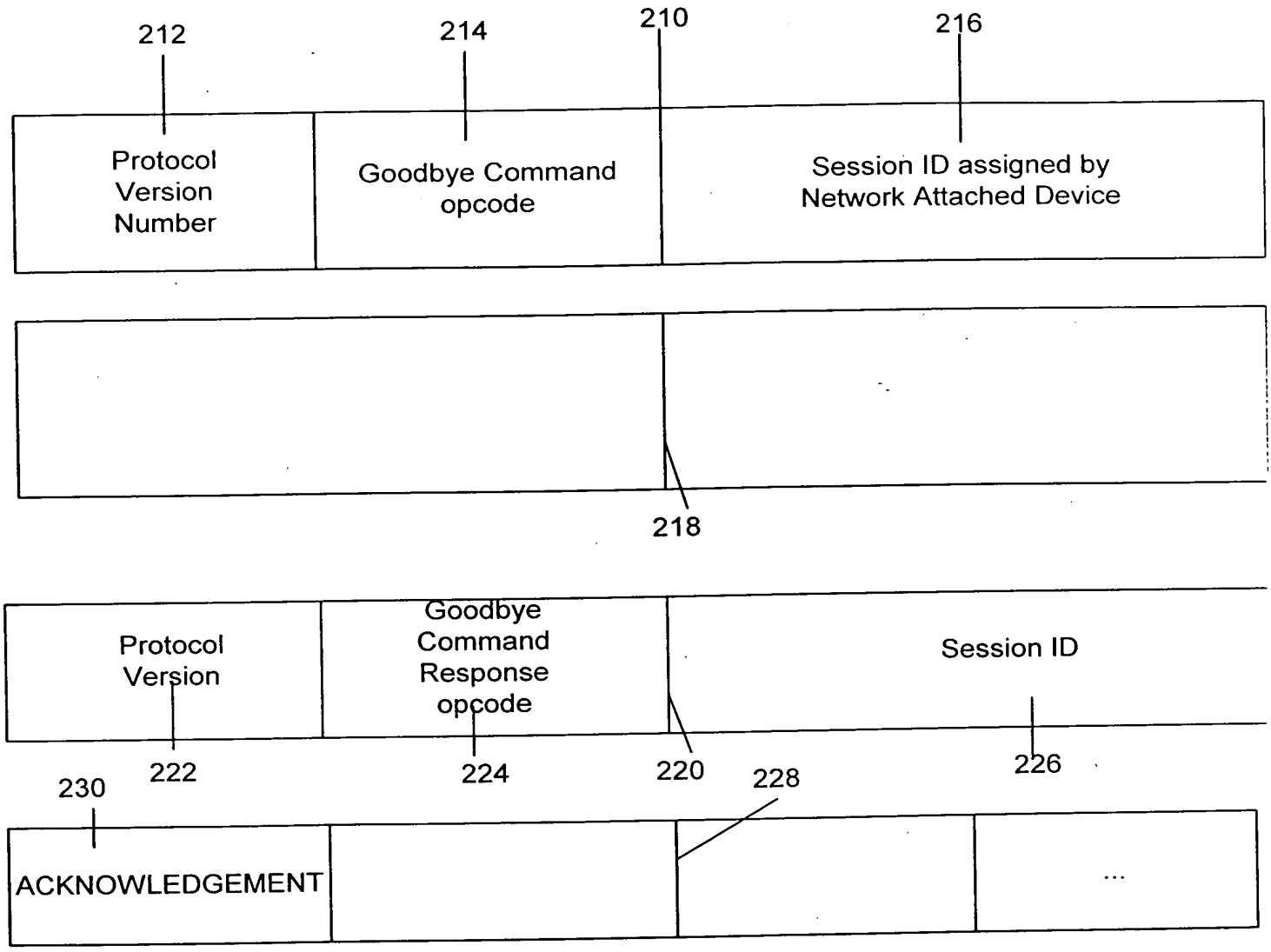

212
214
210
216
Protocol Version Number
Goodbye Command opcode
Session ID assigned by Network Attached Device
218
Protocol Version
Goodbye Command Response opcode
Session ID
222
224
220
226
230
228
ACKNOWLEDGEMENT
...

Figure 10A

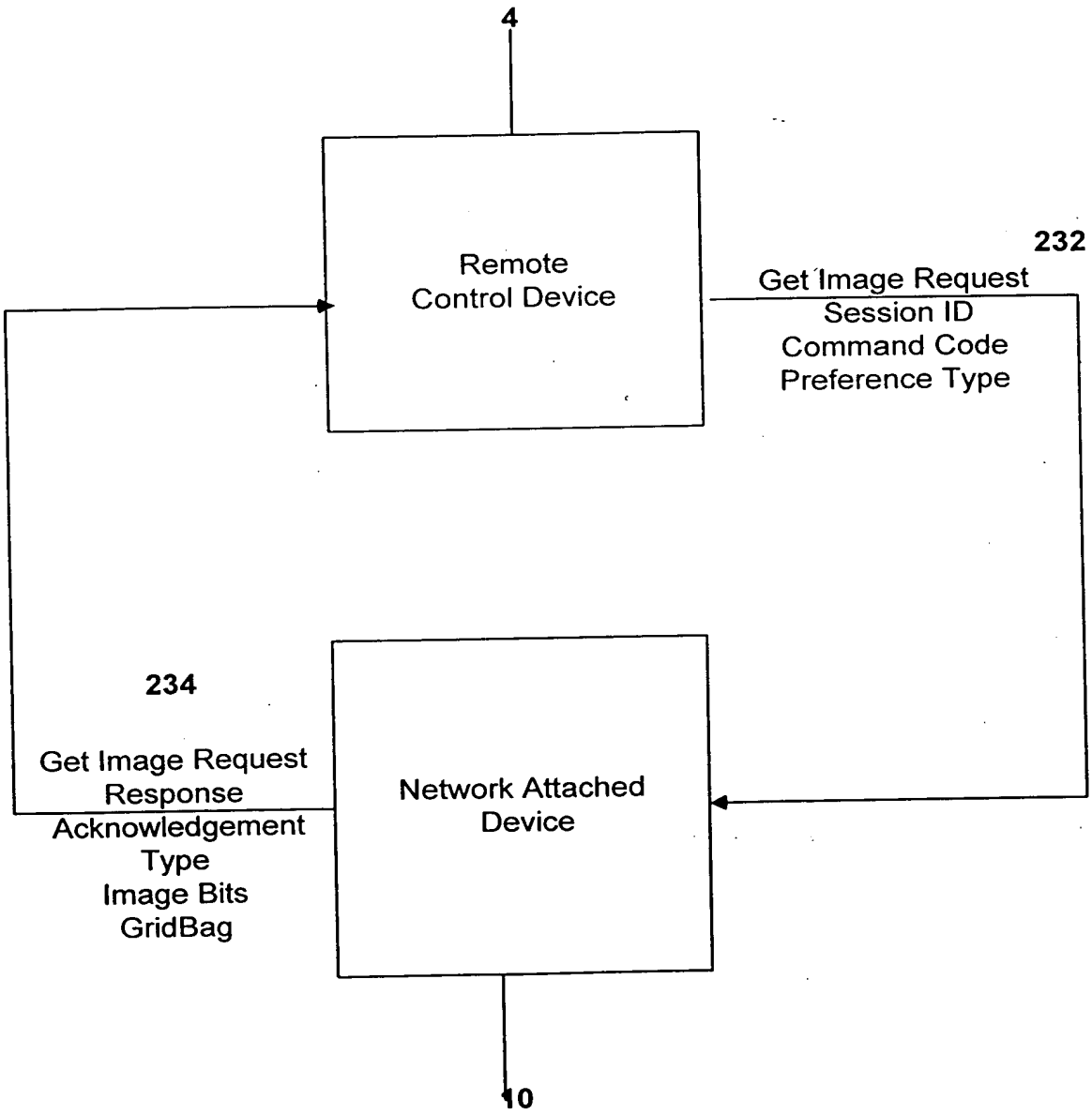

4
Remote
Control Device
232
Get Image Request
Session ID
Command Code
Preference Type
234
Get Image Request
Response
Acknowledgement
Type
Image Bits
GridBag
Network Attached
Device
10

Figure 10B

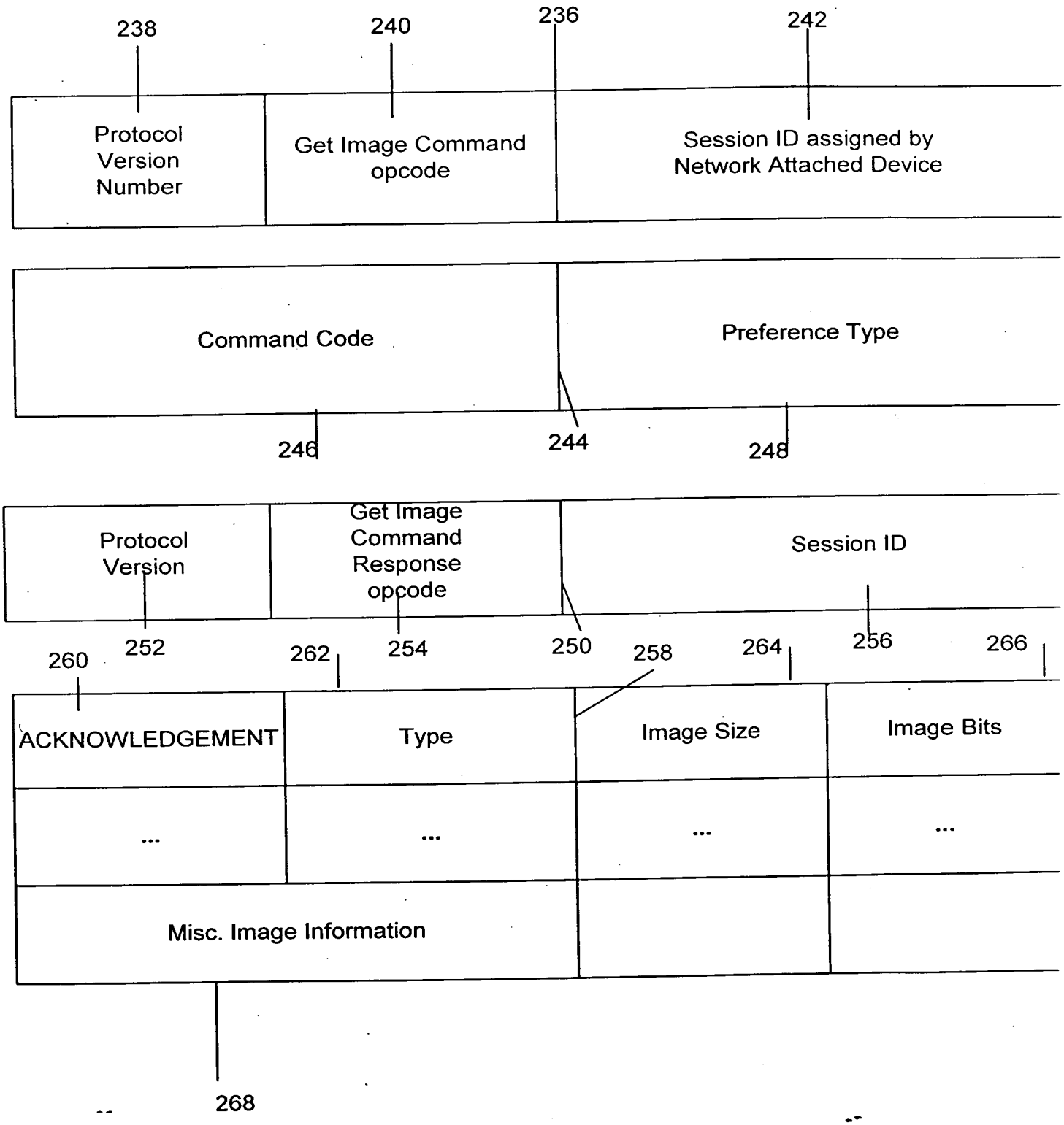

238
240
236
242
Protocol Version Number
Get Image Command opcode
Session ID assigned by Network Attached Device
Command Code
Preference Type
246
244
248
Protocol Version
Get Image Command Response opcode
Session ID
252
254
250
256
260
262
258
264
266
ACKNOWLEDGEMENT
Type
Image Size
Image Bits
...
...
...
...
Misc. Image Information
268

Figure 11A

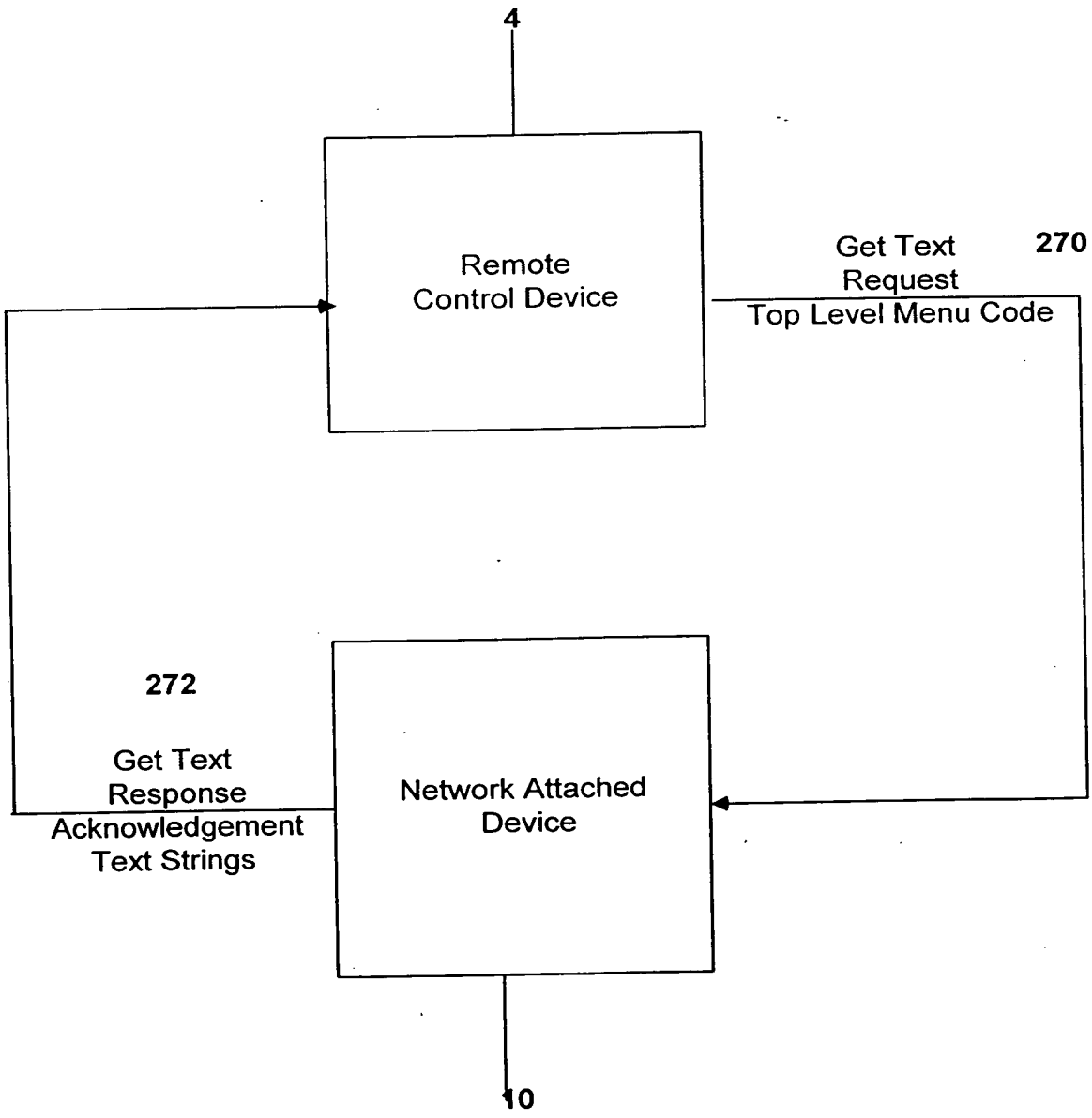

4
Remote
Control Device
Get Text
Request
Top Level Menu Code
270
272
Get Text
Response
Acknowledgement
Text Strings
Network Attached
Device
10

Figure 11B

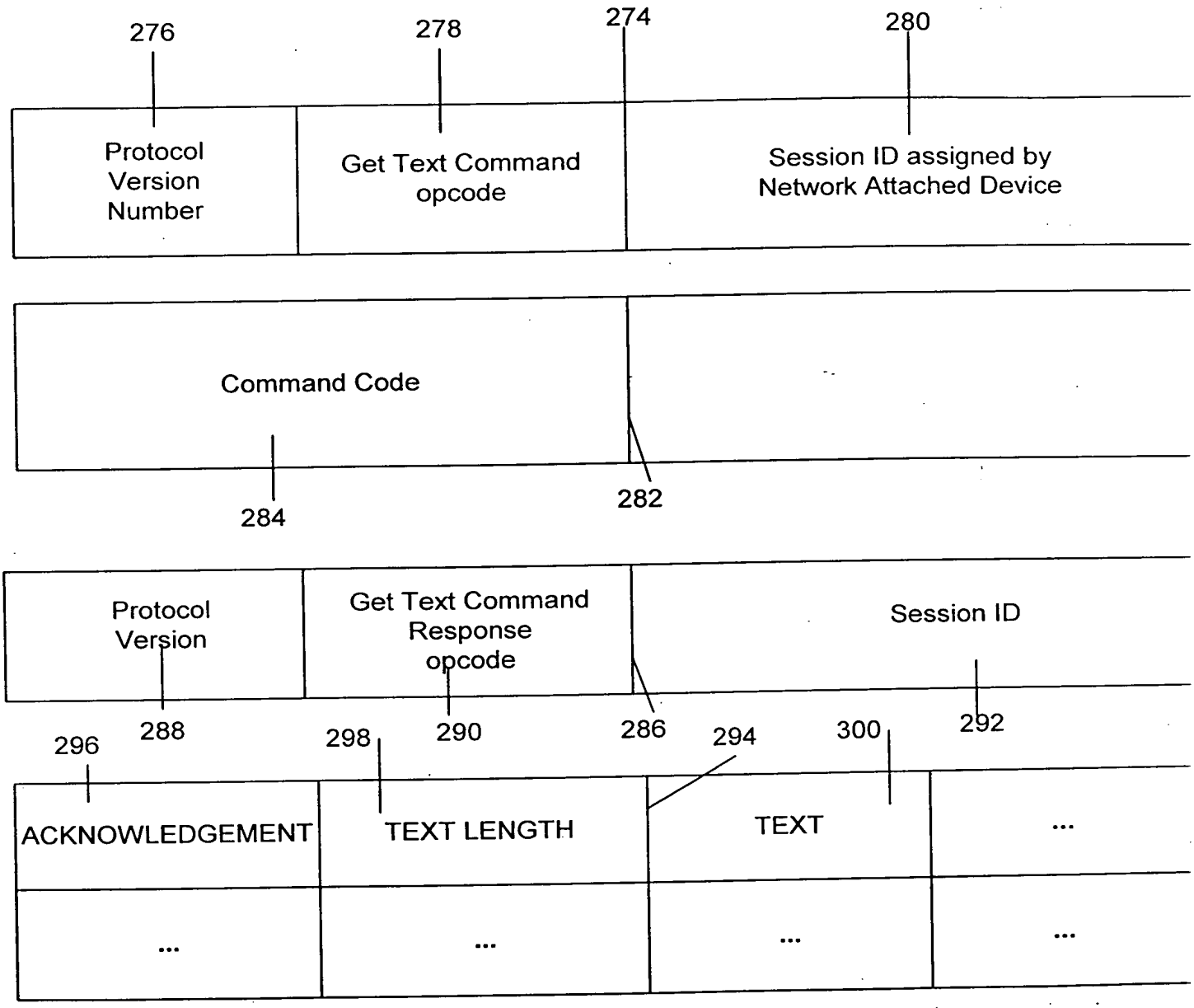

276
278
274
280
Protocol Version Number
Get Text Command opcode
Session ID assigned by Network Attached Device
Command Code
284
282
Protocol Version
Get Text Command Response opcode
Session ID
288
290
286
292
296
298
294
300
ACKNOWLEDGEMENT
TEXT LENGTH
TEXT
...

Figure 12A

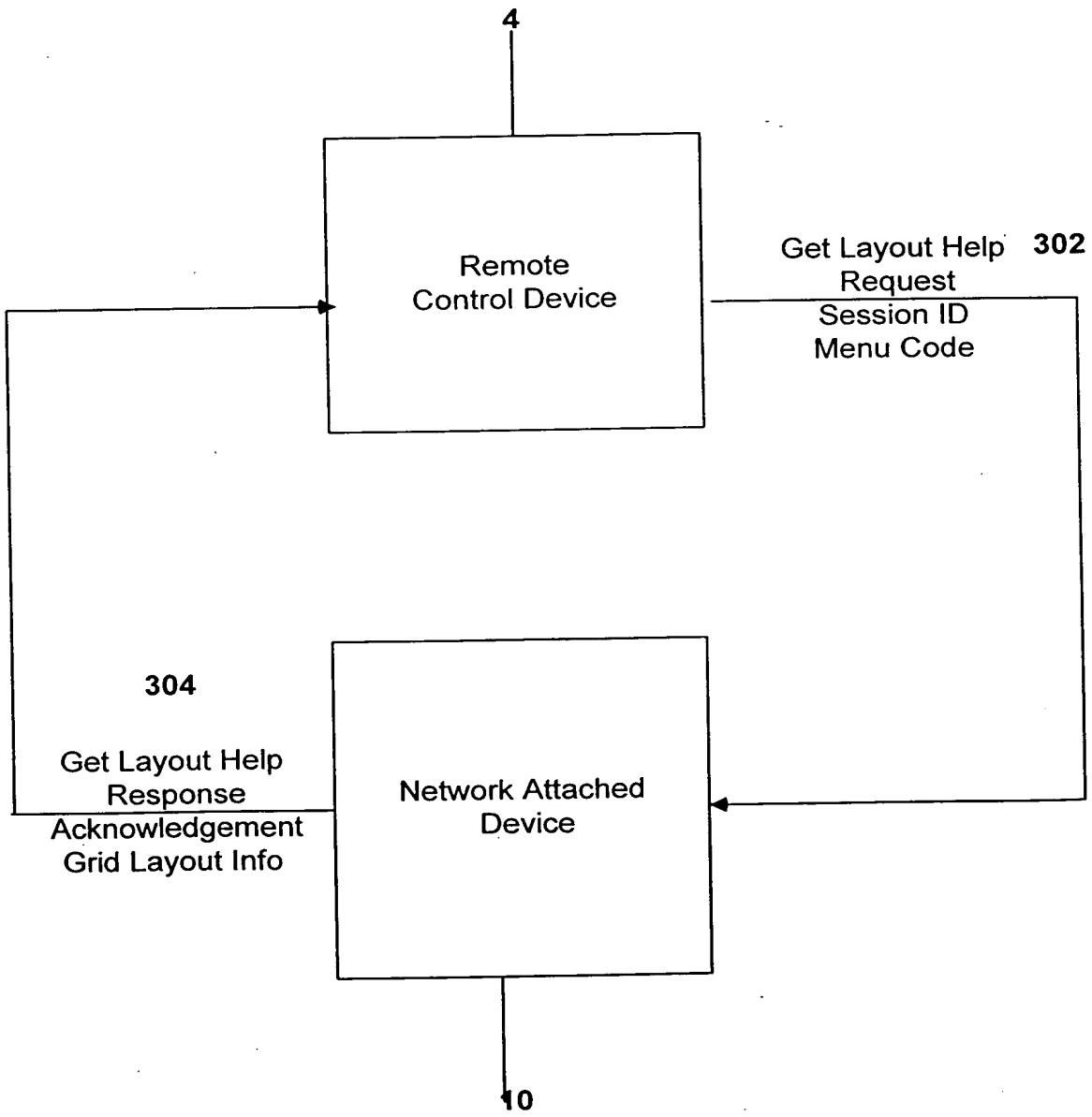
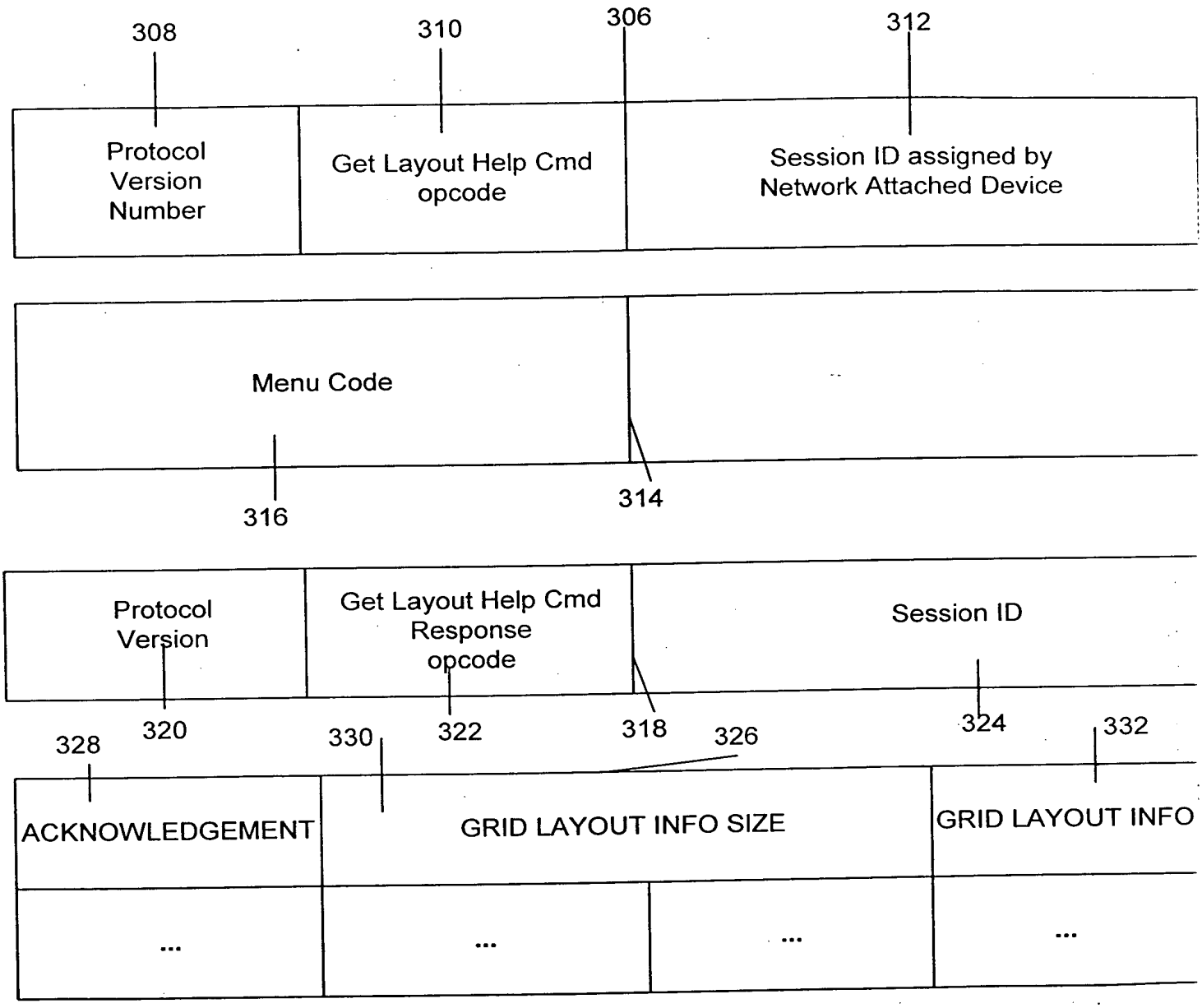

4
Remote
Control Device
Get Layout Help
Request
Session ID
Menu Code
302
304
Get Layout Help
Response
Acknowledgement
Grid Layout Info
Network Attached
Device
10

Figure 12B


308
310
306
312
Protocol Version Number
Get Layout Help Cmd opcode
Session ID assigned by Network Attached Device
Menu Code
316
314
Protocol Version
Get Layout Help Cmd Response opcode
Session ID
320
322
318
324
328
330
326
332
ACKNOWLEDGEMENT
GRID LAYOUT INFO SIZE
GRID LAYOUT INFO
...
...
...
...